Magic Quadrant for Sales and Operations Planning Systems of Differentiation

This Magic Quadrant examines the main vendors that provide S&OP systems of differentiation. Supply chain leaders in IT can use this report when evaluating and selecting such a system to help enable Stage 4 S&OP maturity for their business.

Market Definition/Description

Please note: The analysis in this report is accurate as of 1 December 2016. Due to the dynamic nature of this market, we recommend that clients use Gartner's standard inquiry service to obtain the latest information on vendors and products.

This Magic Quadrant is focused on analyzing the market for sales and operations planning (S&OP) systems of differentiation (SODs). An S&OP SOD is a software solution that helps to enable a Stage 4, or possibly higher, maturity S&OP process. It may do this in conjunction with other supply chain planning (SCP) SODs, such as supply chain modeling, multienterprise inventory optimization or demand sensing. It will require the support of a foundational SCP system of record (SOR) if the full value of the S&OP SOD is to be extracted by the company (for more details on SCP SORs, see "Magic Quadrant for Supply Chain Planning System of Record").

Gartner research reveals that the best way for companies to analyze SCP technology and find the best fit is to consider three key questions:

- What type and level of planning is the business looking to support now?

- What type of technology is required? Is it foundational to support planning visibility and integration, or does it need to be more advanced and differentiating to enable the necessary business capabilities?

- As supply chain environments evolve, what type of planning environment will the SCP technology need to support in the future? What mix of planning capabilities will be required to support the future environment in the best way?

With increased clarity around the answers to these questions, a company is in a good position to make an informed choice as to which type of S&OP technology it requires as part of its overall SCP technology roadmap.

According to Gartner, an S&OP SOD should include 13 key capabilities that are required to support a Stage 4 maturity S&OP process. (See "Reference Model for S&OP System of Differentiation" for a more detailed discussion of these; and for a full list of the detailed requirements included in each, see "Toolkit: An RFP Template for Evaluating S&OP System-of-Differentiation Solutions.")

The key capabilities are:

- Collaboration support — moving more toward a multienterprise environment

- Hierarchy/translation management — e.g., aggregating/disaggregating, switching from units to financial units of measure (UOMs)

- Process management — including templating, assumption management and auditing

- Tight integration to SCP SORs — supporting active decision making in the S&OP process

- Integration to other SODs — either directly or via an SOR, e.g., CRM, strategic corporate performance management (CPM), business intelligence (BI), multiechelon inventory optimization (MEIO)

- Supply chain modeling to support creating scenarios

- Scenario planning and management — including the versioning and socialization of scenarios

- Solution configurability

- Support for global deployments — including planning speed and scalability

- Financial impact analysis and planning — including predictive financial reports

- Performance management and analytics — including scorecards and dashboards

- Simple user experience — including use of Excel as a UI and/or mobility to aid use/access

- Project planning — support for new product introduction (NPI)/product reviews and other supply chain initiatives

Gartner defines five maturity stages for S&OP (see "Introducing the Five-Stage Sales and Operations Planning Maturity Model for Supply Chain Leaders"). Stages 1 to 3 are typically supported by various solutions, including ERP solutions, SCP solutions, spreadsheets and BI reports. Stage 4 is typically supported by SOD solutions that support the specific requirements of more advanced S&OP processes.

Defining Stage 4 Maturity: "Collaborate"

In this stage, the S&OP system creates a demand-driven, profitable supply response across the increasingly extended supply chain, taking into account internal and trading-partner capabilities. Potential benefits include improvements in gross margin, working capital and market share.

The focus is on profitably meeting revenue projections, while taking into account trade-offs required across the supply chain. Profitability is based on a more accurate understanding of distinct supply

chain segments, the inherent performance window of each distinct supply chain and the corresponding cost to serve.

Other benefits include:

- Improved demand-sensing and demand-shaping capability through customer collaboration, with the goal of shared profitability

- Stronger, more structured supplier collaboration for profitable responses

- Tighter integration between the supply chain and the commercial organization, including marketing and product development for successful product launches

- Stronger scenario modeling capabilities helping to build more resiliency into options and plans

Sales and operations execution meetings focused on the short-term demand-and-supply response are typically held weekly or biweekly to evaluate how well the supply chain is tracking to plan and to course correct appropriately. They are closely aligned (through parameters and priority settings) with the midterm plan formulated in monthly S&OP meetings to support profitability-based, short-term trade-offs and strategic/execution alignment.

The S&OP process is coordinated by the supply chain, but owned and sponsored by business unit and profit and loss (P&L) owners. Processes and individual performances are measured on the basis of outside-in goals, such as customer service levels and profitability. The company begins to correlate metrics for such things as agility, resiliency and supply chain responsiveness to S&OP decisions. Examples of captured metrics include perfect order, end-to-end inventory costs or total delivered costs, end-to-end lead times and forecast variability.

In Stage 4, the S&OP process manages trade-offs in the midterm planning horizon (three to 12-18 months), and is synchronized with the annual business planning and budget cycle and horizon.

At this stage, the underlying SCP SOR provides a strong foundation in support of supply chain visibility, end-to-end operational-planning process coordination, external trading-partner collaboration, and short to midterm operational plans, scenarios and trade-offs. It is the mechanism through which S&OP decisions are operationalized. A suitable S&OP SOD helps:

- Manage the S&OP process itself

- Create and collaborate on appropriate scenarios

- Extend the S&OP stakeholders into areas such as marketing, product development and finance

- Provide the financial-impact analysis on mid- to long-term plans and options

- Offer a range of end-to-end performance management, analytics and supply chain modeling to make the best trade-offs repetitively across the supply chain, and with tight integration into the SCP SOR to ensure operationalization of ensuing S&OP decisions

Additional planning SODs may be required to help raise the maturity level in parallel planning areas such as demand sensing and shaping, and multiechelon inventory optimization in support of supply chain segmentation and postponement strategies, for example.

Defining Stage 5 Maturity: "Orchestrate"

At this stage, the ultimate goal of S&OP is to help reach coordinated horizontally and vertically aligned and synchronized networkwide decisions to create value across the complete planning horizon. There is more emphasis on long-term strategic plans and full alignment between innovation and operational decision making. S&OP supports the company's growth plans, expressed in higher percentages of successful service innovations, product commercialization and improved speed to market.

The S&OP process creates and shapes market demand and is fully driven by the business strategy. Trading-partner collaboration is extensive on many levels and across multiple tiers in the supply chain.

Organizationally, the supply chain or finance function coordinates the S&OP process. Ownership of the process still resides with business unit leaders or P&L owners. A CEO, chief supply chain officer or COO drives the overall process.

Individual performance is tied to the achievement of growth goals, such as successful product launches and the company's overall financial performance. Product and service availability at the point of use, network inventory costs, lead time and demand signal transparency are some of the metrics captured. The S&OP process manages longer-term risk and contingency trade-offs in a two- to five-year time horizon (even longer for some industries). The S&OP process can also now support operational- and executional-level decision making. To aid implementation and organizational alignment, an organization may delineate the three main layers of its integrated planning processes — integrated business planning (IBP) process for the long-term strategic view; S&OP process for the midterm tactical view; and S&OE for the short-term operational and executional view. These processes will be multienterprise in nature. Although distinct, these processes will be suitably integrated and aligned to ensure consistent and synchronized decision making up and down and left and right across the extended supply chain.

For this stage, technology builds on that technology used for Stage 4. The S&OP SOD now supports extensive value-based scenario modeling across time horizons and throughout the network. The SCP SOR now supports more dynamic decision making, including real-time monitoring, dynamic "what if?" analysis and respond planning that aligns with strategic goals and policies sent down through the S&OP process. Configure, optimize and respond planning capabilities (see "Getting Ready for the Future: Strengthen Your Supply Chain Planning CORE") are balanced. There is an emphasis, through the SCP SOR, on multienterprise network visibility and many-to-many trading-partner collaboration. Additionally, other SODs (to enable Stage 4 maturity in other planning processes in conjunction with the Stage 4 S&OP process) will be present to support capabilities such as demand sensing and shaping, and strategic inventory modeling, along with the creation and assessment of scenarios and their potential impact on business goals. Stage 5 companies will also use SCP systems of innovation (SOIs) to support advanced analytics across all levels of granularity and time horizons to enhance decision making. These SOI analytical capabilities

will align with Gartner's view of the future of SCP technology, namely algorithmic SCP (see "Digital Business Requires Algorithmic Supply Chain Planning"). They will be required to support Stage 5 digital supply chain initiatives (see "Charting the Path to Digital Maturity in the Supply Chain").

Magic Quadrant

Figure 1. Magic Quadrant for Sales and Operations Planning Systems of Differentiation

Source: Gartner (May 2017)

Vendor Strengths and Cautions

Each vendor has four strengths and cautions. For each category, two correspond to Completeness of Vision and two relate to Ability to Execute. Each strength or caution relates directly to a subcriterion (or criterion) that the vendor was strong or weak in. The relative strength of a vendor's performance is expressed as performance against the average for that criterion across all the vendors evaluated in this Magic Quadrant. This allows a direct relationship between the vendor strengths and cautions and their positioning in the Magic Quadrant. For detailed descriptions of the criteria and subcriteria, please refer to the Evaluation Criteria section.

AIMMS

AIMMS is a private vendor headquartered in the Netherlands. It provides a modeling and optimization platform that can be used across multiple functions.

Strengths

- AIMMS has an above-average understanding of where the S&OP market is heading in terms of integrated planning, both horizontally and vertically aligned.

- It is above average when it comes to the breadth of its supply chain modeling capabilities.

- AIMMS is above average in its product capabilities in areas such as hierarchy management, supply chain modeling, scenario management and financial impact analysis.

- Median project budgets, typical implementation times and solution complexity are below average.

Cautions

- AIMMS' S&OP SOD functionalities and its vision for Stage 5 S&OP maturity are below average.

- References' buying intentions over the next two years are below average.

- AIMMS has a below-average vision for the collaboration capability of its S&OP solution.

- Overall customer satisfaction for AIMMS is below average.

Anaplan

Anaplan is a privately held SaaS platform vendor headquartered in the U.S. It originated in sales and financial planning areas and has recently launched into supply chain. It provides a range of applications that sit on its cloud platform.

Strengths

- References' buying intentions for Anaplan over the next two years are above average.

- Anaplan's abilities and vision for scenarios and collaboration are above average.

- Across all of the capability blocks of the S&OP SOD reference model, Anaplan is above average.

- In terms of median project budgets, service-to-software ratios and implementation timelines, Anaplan is below average.

Cautions

- Anaplan is fairly new to the S&OP market; consequently, its number of S&OP customers is below average.

- Anaplan's vision for future state modeling for more mature Stage 5 S&OP is below average.

- S&OP SOD functional penetration in its references is below average.

- Its references' level of global, single-instance deployments is below average.

Arkieva

Arkieva is a U.S.-based private vendor that focuses on selling SCP software with associated consulting services.

Strengths

- Arkieva has an above-average market understanding for S&OP SOD in terms of horizontal and vertical planning integration allied with probability-oriented predictive end-to-end analytics.

- The vendor has an above-average focus on the process manufacturing industries with its unified SCP SOR and S&OP capability.

- Across the capability blocks of the S&OP SOD reference model, it is above average, particularly in areas such as supply chain modeling, and hierarchy and translation management.

- Arkieva has an above-average level of overall customer satisfaction.

Cautions

- References' buying intentions over the next two years are below average.

- Arkieva has a below-average breadth of S&OP SOD functional coverage and vision for Stage 5 S&OP maturity.

- Its geographic coverage is below average.

- Arkieva's median project budgets and software-to-service ratios are above average.

Demand Solutions

U.S.-based Demand Solutions offers an integrated SCP suite called DSX. DSX is entirely Microsoft-based and available on the Azure cloud. This vendor is owned by Logility, a vendor assessed separately in this Magic Quadrant.

Strengths

- Demand Solutions has above-average coverage across the major industry categories of process manufacturing, discrete manufacturing and distribution intensive.

- It has above-average global reach through its direct and indirect channels.

- It is above average across the capability blocks of the S&OP SOD reference model.

- Overall customer satisfaction is above average along with references operating at Stage 3 or higher S&OP maturity.

Cautions

- Demand Solutions' market understanding for more mature S&OP solutions is below average.

- Its references' buying intentions over the next two years are below average.

- Its level of functional coverage across S&OP SOD is below average.

- The level of global, single-instance deployments in its references is below average.

Infor

Infor is a U.S.-headquartered, privately held business application vendor. Its S&OP solution is part of a product bundle called Infor Integrated Business Planning (IBP) that covers most aspects of SCP.

Strengths

- Infor's S&OP product strategy is above average, particularly in areas such as integration to a strong planning SOR, social collaboration and scenario planning.

- Its vision in terms of supporting IBP, S&OP and S&OE is above average, allied with a strong vison for multienterprise enablement and respond planning support.

- Infor is a large, financially viable vendor with above-average geographic reach.

- It has above-average S&OP functional coverage and reference-level single global deployments.

Cautions

- Infor's market understanding in terms of horizontally and vertically linked planning is below average.

- Its references' buying intentions for the next two years are below average.

- It is below average across the capability blocks of the S&OP SOD reference model.

- Its references report a below-average level of overall customer satisfaction.

JDA

JDA is a U.S.-headquartered private vendor that has grown into the world's largest best-of-breed supply chain software company by a substantial margin.

Strengths

- JDA has an above-average level of market understanding and articulation of Stage 5 S&OP maturity needs.

- Its product strategy is above average, especially in terms of supply chain modeling, collaboration and scenario management.

- In execution across all the capability blocks of the S&OP SOD reference model, it is above average, especially in areas such as collaboration support and supply chain modeling.

- It is above average in its S&OP functional coverage, total number of S&OP SOD customers and reference functional penetration.

Cautions

- JDA's references indicate a below-average level of buying intentions over the next two years.

- Its level of R&D spend is below average as a percentage of its revenue.

- Its median project budgets and service-to-software ratios are above average.

- References report an average level of Stage 3 or higher S&OP maturity and below-average evidence of single global deployments.

Jonova

Jonova is a U.S.-based private software vendor headquartered in Seattle, Washington. It provides a flexible modeling and reporting environment that can mimic the complexities of real-world business processes.

Strengths

- Jonova's vision for the need for probability-based predictive end-to-end analytics is above average.

- Its vision for Stage 5 S&OP enablement is above average, particularly in areas such as supply chain modeling and collaboration.

- Jonova's S&OP SOD functionality coverage is above average, along with its operations in areas such as roadmap, domain expertise and total cost of ownership (TCO).

- Its references have an above-average level of Stage 3 or higher S&OP maturity and single global deployments.

Cautions

- Jonova's references' buying intentions over the next two years are below average.

- Its vison for horizontally integrated planning leveraging a strong planning SOR with respond planning capability is below average.

- It is below average across the capability blocks of the S&OP SOD reference model in areas such as integration to other SODs and performance management and analytics.

- It has a below-average number of S&OP customers and its references report a below-average level of functional penetration.

Kinaxis

Kinaxis is a publicly quoted, Canada-headquartered vendor (its initial public offering was in June 2014). All its capabilities are provided through a single, cloud-based solution called RapidResponse.

Strengths

- The vendor's market understanding for S&OP SOD is above average.

- The buying intentions of its references are above average over the next two years.

- It is above average across the capability blocks of the S&OP SOD reference model.

- References report an above-average level of overall customer satisfaction.

Cautions

- The vendor's vision for probability-oriented predictive end-to-end analytics is below average along with its strategy for supply chain modeling.

- Its net new S&OP customers over the last year are below average.

- Its median project budgets are above average.

- Its references are at a below-average level of Stage 3 or higher S&OP maturity.

LLamasoft

LLamasoft is a U.S.-headquartered vendor that is best known for its supply chain network design and supply chain modeling capabilities. With the expansion of its analytics platform and its 2015

acquisition of Barloworld Limited's Supply Chain Software (SCS) division, it entered into the supply chain planning market.

Strengths

- With its network design heritage, LLamasoft has an above-average vision for the role of supply chain modeling in S&OP along with the associated collaboration on the scenarios created.

- It has an above-average vision for Stage 4 S&OP maturity and the role of probability-oriented predictive analytics.

- It has above-average S&OP functional coverage and evidence of single global instance deployments in its references.

- LLamasoft references report above-average overall customer satisfaction.

Cautions

- LLamasoft's market understanding is below average, particularly in the area of horizontally integrated planning and tight integration with the planning system of record.

- Its vision for multienterprise planning and leveraging a strong planning system of record with respond planning capability is below average.

- LLamasoft is below average across all the S&OP SOD capability blocks of the S&OP SOD reference models.

- The level of Stage 3 or higher S&OP maturity in its references is below average.

Logility

Logility is a U.S.-headquartered vendor owned by American Software, a publicly quoted company. It is known primarily for its Logility Voyager Solutions planning suite.

Strengths

- Logility's market understanding for S&OP SOD is above average.

- Its vision for multienterprise planning and leveraging a strong planning system of record with respond planning capability is above average.

- It is above average in all the capability blocks of the S&OP SOD reference model.

- Logility's references report an above-average level of overall customer satisfaction.

Cautions

- Logility is below average when it comes to the breadth of S&OP SOD capabilities and its vision for Stage 5 S&OP.

- Logility has average global and implementation services reach.

- The breadth of its S&OP SOD functional coverage is below average.

- Its references report a below-average level of single global instance deployments.

o9 Solutions

o9 Solutions is a U.S.-headquartered private vendor. It has supplied the mPower planning platform since 2014.

Strengths

- o9 Solutions has an above-average market understanding for S&OP SOD.

- Its vision for integrated multienterprise planning aligned with strong respond planning is above average.

- o9 Solutions is above average across all the capability blocks of the S&OP SOD reference model.

- Its references report an above-average level of overall customer satisfaction.

Cautions

- o9 Solutions' net new customers in the last 12 months and the buying intentions of its references over the next two years are below average.

- Its industry strategy is below average.

- Its references report above-average median project budgets and service-to-software ratios.

- o9 Solutions has a below-average level of references at Stage 3 S&OP maturity or higher along with a below-average incidence of single global instance deployments.

OM Partners

OM Partners is a Europe-headquartered private vendor that specializes in the process-manufacturing sector. It delivers its SCP capabilities through its integrated planning solution, OMP Plus, of which S&OP is an integral part.

Strengths

- OM Partners' market understanding for S&OP SOD is above average.

- Its acquisition of new S&OP customers over the last 12 months and the buying intentions of its references over the next 12 months are above average.

- Its capabilities are above average across the capability blocks of the S&OP SOD reference model.

- References report an above-average level of overall customer satisfaction, levels of Stage 3 or higher S&OP maturity and single global instance deployments.

Cautions

- OM Partners' vision for scenario collaboration, breadth of S&OP SOD functionalities and support for multienterprise horizontal planning are below average.

- Its industry coverage is below average.

- Its integration to other supply chain planning systems of differentiation is below average.

- Its references' level of satisfaction with the availability of third-party implementation services is below average.

Oracle (VCP)

Oracle is a U.S.-headquartered, public global business application vendor with an extensive portfolio of SCP solutions collectively known as Value Chain Planning (VCP). Oracle VCP contains a mix of Oracle-developed and Oracle-acquired SCP solutions. It is developing a new cloud-based offering (Oracle SCM Cloud), which will eventually have S&OP capability included. For this Magic Quadrant, Gartner evaluated the Oracle VCP suite only.

Strengths

- Oracle VCP has an above-average breadth of S&OP SOD capabilities, including strategic CPM capabilities.

- Oracle's industry strategy for Oracle VCP is above average.

- Its capabilities are above average across the capability blocks of the S&OP SOD reference model.

- It has above-average numbers of customers for its Oracle VCP S&OP SOD solutions, and its references report an above-average level of functional penetration.

Cautions

- Market understanding for Oracle VCP is below average.

- The level of innovation that Oracle has for Oracle VCP is below average.

- References' level of satisfaction with third-party implementation services is below average.

- References report above-average median project budgets, service-to-software ratios and implementation timelines.

Note: Oracle did not participate nor provide supplemental information requested for this Magic Quadrant report, although it did provide final factual review. The Gartner analysis is, therefore, based

on other credible sources, including: public information; past Magic Quadrant data and references; discussions with users of this product through inquiry; and the Gartner SCM World Matrix study ("In Pursuit of the Right Supply Chain Technology Solution" and "Mapping the Path to Supply Chain Digitization, Feb 2017").

Outperform

Outperform is a privately held, Europe-headquartered SCP vendor. It focuses on the process-manufacturing sector, particularly food and beverage companies**,** although its solution is also successfully used in other industries. It provides a broad range of configurable SCP capabilities, including S&OP, through a single integrated solution.

Strengths

- Outperform's level of R&D investment into its planning solutions is above average.

- The second-buying intentions of its references are above average.

- It has above-average capabilities across the capability blocks of the S&OP SOD reference model.

- Its references report above-average levels of overall customer satisfaction with above-average levels of Stage 3 or higher S&OP maturity.

Cautions

- Outperform's market understanding for S&OP SOD is below average.

- Its acquisition of new S&OP customers over the last 12 months and its product strategy are below average.

- Its total number of S&OP SOD customers is below average.

- Outperform's references report a below-average level of single global instance deployments.

QAD (DynaSys)

DynaSys is a division of QAD, an ERP vendor. Headquartered in France, DynaSys provides an SCP suite covering multiple functional areas, including S&OP.

Strengths

- The vendor's vision for supply chain modeling capability is above average.

- Its vision for its S&OP SOD to leverage a strong planning SOR with respond planning capability is above average.

- DynaSys, as part of QAD, has a viable future along with its product suite.

- In terms of operations subcriteria, it is above average, especially in areas such as roadmap, TCO and vendor implementation services.

Cautions

- The vendor's market understanding and vision for supporting Stage 5 S&OP is below average.

- Its references' buying intentions are below average for the next two years.

- Across the capability blocks of the S&OP SOD reference model, it is below average, especially in process management and integration.

- Its references report above-average median project budgets.

Quintiq

Quintiq is now part of Dassault Systèmes, a publicly quoted French software company with international operations. The acquisition was completed in September 2014. Quintiq focuses on manufacturing planning (especially in complex process-manufacturing industries), workforce optimization, and logistics and transportation planning. It uses the same technology platform across all three sectors.

Strengths

- Quintiq's vision for supply chain modeling, collaboration and scenario management is above average.

- Its global reach and depth of third-party implementation services are above average.

- Quintiq has above-average S&OP SOD functional coverage.

- References report an above-average level of single global instance deployments.

Cautions

- Quintiq's market understanding for S&OP SOD is below average.

- Its acquisition of net new S&OP customers and 12-month buying intentions of references are below average.

- As Quintiq competes in larger and more complex deals, its references report above-median project budgets with above-average implementation timelines.

- Quintiq's references report a below-average level of overall customer satisfaction.

River Logic

River Logic is a U.S.-based private software vendor. Its planning capability comes from its planning and prescriptive analytics platform. This is a highly flexible modeling and optimization platform that

can simultaneously consider a range of strategic, tactical and operational constraints across all functions, including finance.

Strengths

- River Logic's market understanding for S&OP SOD is above average.

- Its vision for supply chain modeling, scenario creation and management, and subsequent collaboration, are above average.

- References report below-average project budgets, service-to-software ratios and implementation timelines.

- References report above-average levels of overall customer satisfaction.

Cautions

- River Logic's vision for multienterprise planning and integration into a strong planning system of record with respond planning capabilities is below average.

- References report below-average buying intentions over the next two years.

- It is below-average across the capability blocks of the S&OP SOD reference model.

- River Logic has below-average operations capabilities in areas such as roadmap, domain expertise and geographical coverage.

SAP

SAP is a Europe-headquartered, publicly held global business application vendor. SAP's S&OP offering, SAP Integrated Business Planning (IBP) for sales and operations, was launched in 2012. It's built on the SAP Hana in-memory DBMS and is a component of the broader SAP IBP solution set. It is cloud only.

Strengths

- SAP's IBP references report above-average buying intentions over the next two years.

- Its vision for the integration of S&OP with operational/tactical planning along with scenario and collaboration support is above average.

- SAP is above average across the capability blocks of the S&OP SOD reference model.

- Its total number of S&OP SOD customers and S&OP SOD functional coverage are above average.

Cautions

- SAP's strategy for supply chain modeling is below average, along with its vision for probability-oriented end-to-end predictive analytics.

- Its vison for Stage 5 S&OP maturity is below average.

- References report a below-average level of overall customer satisfaction.

- SAP's references report a below-average level of Stage 3 or higher S&OP maturity.

Steelwedge

Steelwedge was an independent, U.S.-headquartered, privately held vendor well known for its cloud-based collaborative demand planning and S&OP capabilities. In February 2017, it was acquired by E2open (see "Steelwedge Acquisition Enables E2open to Offer Full Planning Suite") to add S&OP capabilities to the existing E2open integrated solutions in network integration, supply chain visibility, planning and execution offerings. It is expected that E2open will migrate the Steelwedge offerings onto its cloud through 2017. The evaluation of Steelwedge in this Magic Quadrant is based on data prior to the acquisition.

Strengths

- Steelwedge's market understanding for S&OP SOD is above average.

- References report an above-average level of future buying intentions.

- Steelwedge is above average across the capability blocks of the S&OP SOD reference model.

- References report an above-average level of single global instance deployments.

Cautions

- It will take E2open several months to migrate Steelwedge fully onto its cloud platform.

- Steelwedge's acquisition of new customers for S&OP SOD over the last 12 months was below average.

- Its strategy for supply chain modeling, and global and implementation services reach were below average.

- References report a below-average level of overall customer satisfaction.

ToolsGroup

ToolsGroup is a private, U.S.-headquartered vendor. It has an integrated planning and optimization platform called SO99+, which it employs for both tactical S&OP and operational SCP.

Strengths

- ToolsGroup's market understanding for S&OP SOD is above average.

- Its vision for probability-oriented end-to-end predictive analytics, multienterprise planning and leveraging a strong planning system of record with respond planning capabilities is above average.

- References report above-average levels of overall customer satisfaction.

- References report below-average project budgets, service-to-software ratios and implementation timelines.

Cautions

- ToolsGroup's industry coverage and global reach are below average.

- Its breadth of S&OP capabilities and acquisition of new S&OP SOD customers in the last 12 months are below average.

- ToolsGroup is below average across the capability blocks of the S&OP SOD reference model.

- The incidence of single global instance deployments in its references is below average.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

AIMMS

Anaplan

QAD (DynaSys)

LLamasoft

o9 Solutions

ToolsGroup

Dropped

Boardwalktech — dropped as not seen in the S&OP SOD market.

One Network — dropped as did not make the inclusion criteria for international revenue.

TXT e-solutions — dropped as vendor is no longer visible in the general S&OP SOD market. It is focusing on the retail sector with its SCP solutions.

Honorable Mentions

While many vendors offer solutions that don't meet all of the inclusion criteria for this Magic Quadrant, they may be very suitable for your enterprise (including those shown below). However, either they are all players in the S&OP market to some degree, or they are doing some interesting things from an S&OP technology development perspective. The following is a sample of vendors (not an exhaustive list) offering S&OP SOD solutions:

- Adexa

- AspenTech

- Boardwalktech

- Exceedra

- One Network

- TXT e-solutions

Inclusion and Exclusion Criteria

The following criteria were used to determine which vendors to include in this Magic Quadrant:

- **Significant deployments** — The vendor should have a minimum of five live customers for its S&OP solution that are using it to run their S&OP process at Stage 4 (or above) maturity.

- **Significant global coverage** — The vendor must have at least 10% of its S&OP SOD software revenue from outside its headquarters' region (the Americas, Europe/Middle East and/or Asia/Pacific).

- **Significant S&OP SOD capability coverage** — The vendor must have reasonable capability in at least 10 of the following 13 key capability areas of an S&OP system of differentiation:

    - Collaboration support — moving more toward a multienterprise environment

    - Hierarchy/translation management — e.g., aggregating/disaggregating, switching from units to financial UOMs

    - Process management — including templating, assumption management and auditing

    - Tight integration to SCP system(s) of record — supporting active decision making in the S&OP process

    - Integration to other SODs — either directly or via an SOR, e.g., CRM, strategic CPM, BI, MEIO

    - Supply chain modeling to support creating scenarios

    - Scenario planning and management — including the versioning and socialization of scenarios

- Solution configurability

- Support for global deployments — including planning speed and scalability

- Financial impact analysis and planning — including predictive financial reports

- Performance management and analytics — including scorecards and dashboards

- Simple user experience — including use of Excel as a UI and/or mobility to aid use/access

- Project planning — support for NPI/product reviews and other supply chain initiatives

Evaluation Criteria

Ability to Execute

To help assess the capabilities of the vendors evaluated in this Magic Quadrant, Gartner has supplemented the seven top-level Ability to Execute criteria with a number of subcriteria. Each subcriterion was specifically chosen to help distinguish the different vendors by providing an S&OP-SOD relevant assessment against a Gartner standard. For some of the subcriteria, reference customers' scores and vendors' RFP and survey responses were combined to help with the assessments. Statements regarding vendors' strengths and cautions that relate to "averages" (either above or below) refer to the subject vendor's subcriteria scores as compared with the average across all the vendors evaluated in this Magic Quadrant.

Product or Service:

This criterion assesses the vendor's ability to support, to an acceptable level, a reasonable proportion of the core capabilities of an S&OP SOD as defined in the Gartner S&OP SOD reference model (see "Reference Model for S&OP System of Differentiation"). These can be supported either natively or via OEM agreements and partnerships. Strength was assessed via a weighted standard S&OP SOD RFP in combination with feedback from reference customers, along with subsequent user-determined-subcriteria weightings to ensure a sharper focus on the areas deemed important by users.

Subcriteria:

- Collaboration support

- Hierarchy/translation management

- Process management (including assumption management and auditing)

- Tight integration with relevant SCP SORs

- Integration with other planning SODs (including those for CRM, strategic CPM, BI and MEIO)

- Supply chain modeling

- Scenario planning and management (including socialization of scenarios)

- Solution configurability

- Support for global planning (including scale, speed and single-instance strategy)

- Financial-impact analysis and planning

- Performance management and analytics

- Simple user experience (including the use of Microsoft Excel as a UI, and mobility to aid use and access)

- Project planning to support new product introductions

Overall Viability:

This criterion assesses the viability of a vendor and its solution. It includes an assessment of the vendor's financial health, the vendor's financial and practical success, and the likelihood that the vendor will continue to invest sufficiently in its S&OP SOD product, offer the product, and advance the state of the art of S&OP within its product portfolio.

Subcriteria:

- Vendor's financial rating

- Viability of vendor's S&OP SOD product

Sales Execution/Pricing:

This criterion examines the vendor's ability to provide business value, compared with the price it charges for the software and the number of services required to deploy the S&OP solution. Subcriteria examine the vendor's strength in relation to the overall budget required to implement its software, the ratio of implementation services to license/subscription costs, the typical implementation times users can expect (a proxy for how quickly a user may see business benefits and hence a return on investment), and the complexity of the vendor's solution portfolio.

Subcriteria:

- Median project budgets based on vendor reference feedback

- Typical service-to-software ratios

- Typical implementation time

- S&OP functionality/application complexity

Market Responsiveness/Record:

This criterion assesses the vendor's ability to respond, change direction, and achieve competitive success as the market and the requirements for S&OP SODs evolve. It includes the vendor's history of responsiveness. We assess areas such as the vendor's coverage of all the key functional areas of an S&OP SOD (especially as a user matures its S&OP process), the total number of S&OP SOD customers, and the S&OP SOD functional penetration of those customers (indicative of the expanded use of the S&OP solution).

Subcriteria:

- The degree to which the vendor currently covers all the capabilities and functional areas of a broad and complete S&OP SOD solution (for example, corporate performance management, supply chain risk management, cost-to-serve analysis and long-term demand sensing). These functional areas may be in the S&OP solution itself or provided through other applications in the vendor's portfolio.

- The total number of S&OP SOD customers for the S&OP SOD solution.

- The degree to which a vendor has been able to penetrate its installed base across the different SCP functional areas based on vendor reference feedback.

Marketing Execution:

This criterion assesses the vendor's ability to create "mind share" with companies looking for capable S&OP SOD solutions for potential global deployments. This includes the clarity, quality, creativity and efficacy of programs designed to deliver the vendor's message in order to influence the S&OP SOD market, promote the brand and business, increase awareness of the products, and establish a positive identification with the S&OP SOD product in the minds of buyers. Strength is assessed in terms of aspects such as the degree to which the vendor's S&OP SOD installed base uses the S&OP SOD to support higher-maturity S&OP processes, and the instance strategy used to support the expansion of S&OP processes, including any evidence of emerging multienterprise S&OP deployments.

Subcriteria:

- The degree of evidence that a vendor's references are at Stage 3 (or higher) S&OP maturity. (Stage 3 is chosen as, often, companies at this stage are preparing for Stage 4. To score well here, a vendor must have an above-average percentage of its S&OP SOD users at Stage 3 or higher.)

- The degree of evidence, in its customer references, that the vendor's S&OP SOD solution is being deployed as a single instance in support of global S&OP deployments (including evidence of emerging multienterprise S&OP deployments). This is not necessarily a reflection on the technical capabilities of a solution to scale and be deployed globally but, rather, the level of evidence that it is being used as such in the market today and, thereby, "pressure tested" in supporting a global mature S&OP process.

Customer Experience:

This criterion examines evidence for the viability of the vendor's product in the S&OP SOD market. Of particular interest are customer references demonstrating higher levels of S&OP maturity (either very strong Stage 3 or early Stage 4) over end-to-end supply chains using single instances of the vendor's S&OP SOD solution. Customer experience is assessed by the level of overall user satisfaction with the vendor's S&OP SOD, the likelihood of customers reselecting the same solution, and the actual business benefits achieved by those using the vendor's S&OP SOD to support their S&OP maturity journey.

Subcriteria:

- Overall customer satisfaction level of vendor's references

- The likelihood of vendor references selecting the same vendor again (for the same requirements)

- The level of business benefit achieved by vendor references compared with the anticipated level

Operations:

This criterion assesses the vendor's ability to meet its goals and commitments to users satisfactorily. This includes aspects such as satisfactory ability to provide internal professional services resources, or to partner with system integrators or other service providers to provide customers with S&OP domain expertise; suitable pricing models; deployment options; easy upgrades; and acceptable total cost of ownership.

Subcriteria:

- Vendor reference satisfaction with the vendor's product roadmap

- Vendor reference satisfaction with the vendor's SCP domain expertise

- Vendor reference satisfaction with the vendor's own implementation services

- Vendor reference satisfaction with availability of third-party implementation services

- Vendor reference satisfaction with the SCP SOR's total cost of ownership

- Vendor reference satisfaction with the vendor's global coverage

- Vendor reference satisfaction with the vendor's cloud deployment options

- Vendor reference satisfaction with the vendor's SaaS-based pricing

- Vendor reference satisfaction with the vendor's frequency and ease of software upgrades

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weightings
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	Low
Market Responsiveness/Record	High
Marketing Execution	Medium
Customer Experience	High
Operations	High

Source: Gartner (May 2017)

Completeness of Vision

To help assess the capabilities of the vendors evaluated in this Magic Quadrant, Gartner has supplemented the eight top-level Completeness of Vision criteria with a number of subcriteria. Each subcriterion was specifically chosen to help distinguish the different vendors by providing an S&OP-SOD relevant assessment against a Gartner standard. For some of the subcriteria, reference customers' scores and vendors' RFP and survey responses were combined to help with the assessments. Statements regarding vendors' strengths and cautions that relate to "averages" (either above or below) refer to the subject vendor's subcriteria scores as compared with the average across all the vendors evaluated in this Magic Quadrant.

Market Understanding:

This criterion assesses the vendor's ability to demonstrate a strategic understanding of how the S&OP SOD market is evolving. It includes the vendor's vision to meet requirements for multienterprise, horizontally integrated planning; vertically integrated planning to align strategic, tactical and operational plans; provision of probability-oriented analytics to support resilient end-to-end profitability trade-offs; and risk management scenarios.

Subcriteria:

- The vendor's vision for multienterprise horizontal planning

- The vendor's vision for vertical planning that links strategy with operations and execution

- The vendor's vision for tight integration into relevant planning systems of record to ensure closed-loop decision making

- The vendor's vision for probability-oriented predictive and prescriptive E2E analytics

Marketing Strategy:

This criterion assesses the vendor's ability to demonstrate that it has a strong S&OP SOD vision that it could communicate to the market and its existing users. Vendors with the highest level of vision are able to articulate to the market how their S&OP SOD solution aligns with a broad range of S&OP capabilities. Strong vendors also are able to articulate an S&OP vision that is consistent with Gartner's Stage 4 and Stage 5 S&OP maturity.

Subcriteria:

- The vendor's vision for a broad portfolio of functional components that support and enhance the value that can be derived from the S&OP SOD solution as part of an overall SCP technology landscape that addresses longer-term and shorter-term planning and alignment

- The vendor's articulation of an S&OP vision that is consistent with Gartner's Stage 4 and Stage 5 S&OP maturity

Sales Strategy:

This criterion assesses the vendor's strategy for selling its S&OP SOD solution using an appropriate network of direct and indirect sales, marketing, service, and communication affiliates to extend the scope and depth of its market reach, skills, expertise, technologies, services and customer base. Success is measured by net-new S&OP SOD customers in the past 12 months, as well as by the buying intentions of customers over the next couple of years, to see if they plan to use their incumbent vendor to support their increasingly mature S&OP processes and expanding capability needs.

Subcriteria:

- Vendor reference buying intentions across S&OP SOD functional areas in the next 12 months

- Vendor reference buying intentions across S&OP SOD functional areas in 12 to 24 months

- Vendor's net-new S&OP SOD customers in the past 12 months

Offering (Product) Strategy:

This criterion assesses how well the vendor can articulate to the market a "statement of direction" for the next two or three years that will keep pace with (or surpass) Gartner's vision of the S&OP SOD market. The vendor needs to understand any major technological and architectural shifts that will be required, and communicate a plan to capitalize on them. This may include any migration issues that these shifts create for customers. The vendor's vision should include areas such as the integration of its S&OP SOD into operations and execution to enable an active S&OP decision-making process, and supply chain modeling and design.

Subcriteria:

- The vendor's vision for integration into operations- and execution-level planning to support active closed-loop S&OP decision making

- The vendor's vision for supply chain design and modeling capabilities to support the scenario management aspects of mature S&OP (for example, long-term demand sensing, long-term capacity management, driver-based financial models, support for supply chain segmentation configuration and supply chain risk management)

- The vendor's vision for supporting collaboration (including social-type collaboration, plans, scenarios and initiative/study-level collaboration)

- The vendor's vision for scenario planning and management including ease and speed of creation, scope, and subsequent socialization across relevant internal and external stakeholders

Business Model:

This criterion examines the soundness and logic of a vendor's underlying business proposition through its focus on, and prioritization of, its S&OP SOD capabilities and the level of R&D investment in its S&OP SOD capabilities and solutions.

Subcriteria:

- The vendor management team's focus on, and prioritization of, its S&OP SOD solutions and portfolio

- The vendor's level of R&D spending on its S&OP SOD solutions, as measured by the percentage of revenue allocated to S&OP R&D

Vertical/Industry Strategy:

This criterion examines the vendor's strategy to direct resources, skills and offerings to meet the needs of individual vertical markets. The vendor needs to articulate how it balances the needs of its target industries within its S&OP SOD solution. Vendors are assessed on the breadth of their vertical-market focus for S&OP. The vendor needs to articulate how it will balance the needs of different vertical industries across its S&OP solution. Key for S&OP solutions is the vendor's focus on three industry groupings:

- **Process manufacturing:**

  - Consumer goods

  - Food and beverage

  - Pharmaceuticals

  - Paper and pulp

  - Oil and gas

  - Metals

- Chemicals
- **Discrete manufacturing:**
    - Automotive
    - Industrial manufacturing
    - Hi tech/electronics
    - Aerospace and defense
    - Mining and construction
    - Medical devices
- **Distribution-intensive:**
    - Telco/utilities
    - Aftermarket
    - Retail
    - Wholesale/distribution

Subcriteria:

- Strength in process-manufacturing industries (i.e., consumer products, food and beverage, pharmaceuticals, paper and pulp, oil and gas, metals, chemicals)
- Strength in discrete-manufacturing industries (i.e., automotive, industrial manufacturing, hi-tech/electronics, aerospace and defense, mining and construction, medical devices)
- Strength in distribution-intensive industries (telecom and utilities, aftermarket, retail and wholesale distribution)

Innovation:

This criterion examines the vendor's ability to articulate how it will innovate its S&OP SOD product and services to meet the evolving needs of an S&OP SOD. Aspects assessed include alignment between Stage 4 and Stage 5 S&OP (also known as integrated business planning), Stage 3 S&OP (demand/supply balancing) and S&OE (operational planning and execution). These should be exemplified through a model such as configure, optimize, respond and execute (CORE). Support for multienterprise planning, and use of a strong SCP SOR to support scalability, planning speed, big data analytics, in-memory computing, and horizontal SOR and SOD integration for data, process and analytical models, and the ability to use data for user- or third-party-devised SOI analytics should be covered as well.

Subcriteria:

- The vendor's vision for the alignment and synchronization of business planning, S&OP and sales and operations execution

- The vendor's vision to support multienterprise planning (including areas such as master data management, use of the cloud, integration platform as a service, in-memory computing and links to end-to-end supply chain visibility capabilities)

- The vendor's vision to use a strong planning SOR, which includes a strong respond planning vision and relevant architectures to support

Geographic Strategy:

This criterion examines the vendor's strategy to support customers in all the main world regions to ensure successful global deployments of its S&OP SOD. This includes the vendor's strategy to direct resources and skills to meet the needs of geographies outside its native geography, either directly or through partners, channels and subsidiaries, as appropriate for that geography and market. Success is measured by customer counts in the different regions, along with the vendor's breadth of implementation services and plans to broaden them.

Subcriteria:

- Global reach of customer base across seven regions (North America, South America, Western Europe, Eastern Europe, the Middle East, Africa and Asia/Pacific)

- Number of third-party implementation partners

Table 2. Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weightings
Market Understanding	High
Marketing Strategy	High
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Low
Innovation	High
Geographic Strategy	Medium

Source: Gartner (May 2017)

Quadrant Descriptions

Leaders

Leaders demonstrate strong S&OP SOD vision and execution capabilities. They have depth in the key capability blocks of Gartner's S&OP SOD reference model. They are particularly strong in highly rated user requirements such as supply chain modeling, tight integration with a relevant SCP SOR, and financial impact analysis of plans and scenarios. Leaders are typically financially viable and have a viable S&OP SOD offering. They have mainly developed capabilities for acceptable software pricing and implementation costs, along with faster deployment timescales (through cloud platforms, process templating, configuration and portfolio simplification). They can demonstrate good market penetration through broad S&OP functional coverage in their solution(s) and numbers of S&OP SOD customers with broader S&OP functional penetration. Customers using Leaders' S&OP SOD solutions tend to operate their S&OP processes at Stage 3 maturity (or higher) with global deployments. Customers generally feel highly satisfied with these vendors and would be very likely to select the same vendor again. They are generally happy with Leaders' operations in areas such as roadmap, domain expertise, own and third-party implementation services, total cost of ownership, and geographic coverage.

Leaders have a strong vision for their S&OP SOD capabilities. They recognize the role they will need to play in enabling the move toward multienterprise horizontal planning allied with vertical integration that links strategy to operations and execution. They are looking at developing analytics to support probability-focused end-to-end predictive and prescriptive analytics to support profitability trade-offs and supply chain design and configuration capability. They will build a broad portfolio of capabilities covering CORE areas such as S&OP SOD, SCP SOR with relevant respond planning, supply chain configuration and design, and strategic and financial planning. Their vision for S&OP aligns with Gartner's definition of Stage 5 S&OP maturity. This should inspire strong buying intentions among their existing customers as these users advance along the maturity curve. It should also enable them to achieve strong net-new wins. Leaders are able to articulate a strong roadmap for the support of active S&OP, the emergence of deep supply chain modeling capabilities, and support for scenario and initiative collaboration. Their solution architecture plans demonstrate appropriate application of technology to support scale, speed, big analytics and the need to draw on a strong SCP SOR that includes a viable respond-planning vision. Leaders are actively developing their geographic and industry strategies.

Leaders support users of global Stage 4 S&OP deployments today and are highly likely to continue to support them as they mature into Stage 5 S&OP.

Challengers

Challengers exhibit strong execution capabilities, but their visions are not yet closely aligned with Gartner's view of the future of S&OP SOD solutions. Challengers are often smaller vendors or divisions of much larger vendors. They have good S&OP SOD functional breadth and depth, as well as good domain expertise, implementation services, geographic coverage and total cost of ownership. They have been using their solutions to support early Stage 4 maturity S&OP

deployments, and have good functional penetration into those customers' companies. These end users are generally satisfied with Challengers' solutions and the level of benefit they are achieving, but they are not predominantly deploying them in support of global S&OP processes yet.

Challengers have weaknesses in their product roadmaps. They may not yet have articulated strong visions for areas such as extended horizontal and/or vertical integration to support multienterprise collaborative planning in close alignment with a company's long-term strategic plan. Their view of S&OP may be too limited, and it may not extend beyond early Stage 4 maturity. Consequently, the buying intentions of existing users are likely to be somewhat limited. Some Challengers lack clarity on how they will enable more mature S&OP users in the area of supply chain modeling in support of resiliency and the associated financial analysis of these models. They need to improve collaboration, and their efforts to develop solution architectures that ensure planning alignment across all levels of granularity and time horizon, supported by the ability to plan quickly across large planning models. Challengers are likely to be more narrowly focused than Leaders in terms of geographies and/or industries.

Challengers can support regional early Stage 4 S&OP deployments today but, without adjustments to their roadmaps, they are likely to struggle to support users as they look to mature further into Stage 4 and reach Stage 5.

Visionaries

Visionaries articulate a strong S&OP SOD vision with a good understanding of market direction, but are lacking in areas such as numbers of end users and the degree to which their solution is penetrating into their installed base. They are likely to have a reasonable percentage of their users at Stage 3 or higher S&OP maturity with global deployments.

Visionaries' roadmaps are strong; they articulate a good vision for how they plan to fill gaps in their solution offering through development, acquisition or partnership. They understand how horizontal and vertical planning integration is key to the future value proposition of S&OP solutions, and how their architectures need to integrate across the CORE categories.

Visionaries help companies support key aspects of their Stage 4 S&OP processes, but they may be unable to support all aspects. They lack stronger executional evidence and may need to build out more internal capabilities such as geographical coverage, domain expertise and solution roadmaps. Consequently, they are often partnered (either through their own programs or by end users) with other planning vendors as part of a more heterogeneous S&OP technology landscape.

Niche Players

Niche Players can be perfectly viable choices for S&OP projects, but they are likely to struggle to fulfill all the requirements of an entire S&OP SOD. They are likely to have specific weaknesses in their S&OP SOD vision and execution. While they may have strong functional S&OP capabilities, they do not yet exhibit a strong-enough roadmap toward the key criteria that Gartner believes to be important for an S&OP SOD. Niche Players' offerings may often be deployed as S&OP SODs with another vendor's SCP SOR already in place. Niche Players can demonstrate value through the integration and alignment of their S&OP SOD and other SCP SOR capabilities. In some cases, this

will be because the Niche Player can bring a strong capability into play for users, such as collaborative demand and sales planning, supply chain modeling, or application configurability and ease of use. Niche Players need to work on their roadmaps and market penetration to move higher up in the Magic Quadrant.

Niche Players will help some companies with their S&OP programs, mainly by complementing existing SCP SOR capabilities.

Context

Gartner defines the S&OP solutions market as a subsector of the SCP market. The SCP market was worth $4.1 billion in 2016 and is forecast to grow at approximately 8% per year through 2020 (see "Forecast: Enterprise Software Markets, Worldwide, 2013-2020, 3Q16 Update"). The S&OP technology market has two main elements. The first, and largest, covers operational-level demand and supply planning solutions, such as SCP systems of record, that are typically used to support up to Stage 3 S&OP maturity. Gartner estimates this part of the market was around $2 billion in 2016. It is forecast to grow between 3% and 6% per year over the next five years (this forecast is modeled on the supply chain management [SCM] and SCP forecast, and is not published elsewhere). The second component covers the technology supporting Stage 4 and above S&OP maturity (known as S&OP SODs). Gartner estimates this part of the market was worth $400 million in 2016. It is forecast to grow between 20% and 40% per year over the next five years (this forecast is also modeled on the SCM and SCP forecast, and is not published elsewhere).

Gartner uses three frameworks to help define and analyze the market for solutions within the overall SCP market, including S&OP SOD solutions.

Gartner's five-stage S&OP maturity model (see "Introducing the Five-Stage Sales and Operations Planning Maturity Model for Supply Chain Leaders")**:** The business value derived from planning is largely dependent on the maturity of the processes in place. The more mature the planning process, the more business value will be generated, relative to the external competitive environment. Different technology capabilities are needed to support different levels of planning process maturity, and it is important to identify which stage of planning maturity is being targeted to ensure that the right capabilities are acquired at the right time and in the right way. For this Magic Quadrant, we focus on S&OP technology capable of enabling at least Stage 4 S&OP maturity.

Gartner's pace layer framework (see "Best Practices for Developing a Pace-Layered Application Strategy for Supply Chain Planning")**:** The SCP technology a company requires to support different planning process maturities evolves as maturity increases. To describe this technology evolution for the SCP market, we use Gartner's pace layer framework to define what SCP technology is in each layer and which pace layer is aligned with which stage of supply chain planning maturity (e.g., SOR, SODs, SOIs). Identifying this alignment is key to ensuring that the right SCP technologies are being considered and deployed for each maturity stage and in support of the journey a company will be taking through the maturity stages. It is also important that the layers work well together. The higher-quality plans created in the SODs and SOIs must be managed back (i.e., integrated and aligned) into the SOR so that their output can be used by the next step, or level, in the overall planning

process and maintain the integrity of the underlying SOR process and data models. The Gartner pace layer framework identifies three layers:

- **Planning systems of record** are used by companies to support Stage 3 planning maturity (known as the Integrate stage). This stage of planning maturity doesn't call for the deepest functionality, but it does require an integrated end-to-end plan that synchronizes the previously fragmented departmental/siloed plans that companies have at Stages 1 and 2 planning maturity. It is typically separate from a company's ERP system or systems that are fulfilling more of a transactional system of record role. A supply chain planning system of record is a platform that enables a company to create, visualize, manage, link, align, collaborate and share its planning data across a supply chain, from demand plan creation to the supply-side response, and from detailed operational to tactical-level planning, including Stage 3 S&OP maturity. It is likely to be a packaged SCP application that spans a complete defined supply chain, at least at the enterprise level, and provides good-enough planning functionality to produce a reasonable quality plan. The rate of business change for the SOR is relatively low because the planning processes are well established, fairly common to most organizations and often subject to recommended practices.

- **Planning systems of differentiation** are used by companies to support Stage 4 planning maturity such as S&OP. These applications enable differentiating company processes or deep, industry-specific capabilities. They have a medium life cycle (one to three years), but require frequent reconfiguration to accommodate changing business practices and customer requirements. In supply chain planning, these systems of differentiation will tend to be planning-process oriented in areas such as Stage 4 sales and operations planning (S&OP), Stage 4 inventory planning (e.g., multiechelon inventory optimization), Stage 4 demand planning (e.g., demand sensing) and Stage 4 manufacturing scheduling (e.g., complex process industry scheduling).

- **Planning systems of innovation** are used by companies to support Stage 5 planning maturity and are likely to be E2E predictively and/or prescriptively analytical in nature. These typically would be in-house developed (or vendor co-developed) applications that are built on an experimental basis to address Stage 5-type emerging business requirements and opportunities. These are typically short life cycle projects (up to 12 months or so), using departmental or outside resources and probably consumer-grade technologies. Often they will leverage the planning data available in the planning system of record and pass the results of their analytics back into the planning SOR to be used in the next step of the process.

The SCP CORE model (previously known as SCORE; the S was dropped to avoid confusion with the Supply Chain Council's SCOR model)**:** This model is outlined in "Getting Ready for the Future: Strengthen Your Supply Chain Planning CORE." Gartner recognizes three major categories of planning functionality (out of about 60 individually discernible solution types). They help to "Configure" (or design) the supply chain (e.g., in terms of an appropriate supply chain segmentation strategy or postponement strategy); "Optimize" the supply chain (e.g., helping to create an optimal plan using constrained resources); or "Respond" when execution doesn't happen according to the optimal plan (e.g., customer order prioritization for Class A customers when a supplier delivery is shorted). However, to be able to respond effectively, the planning solution needs to "see" what's happening in near real time in "Execution" — the E of CORE.

In summary, the CORE model stands for:

- **C = Configure —** helping to decide the configuration or design of the supply chain to deliver the company goals by enabling the supply chain strategy

- **O = Optimize —** helping to create optimal demand and supply plans taking into account any constrained resources

- **R = Respond —** helping to create an intelligent response to execution events that keeps the short-term plan as close as possible to the company goals

- **E = Execution —** helping to ensure that the planning capability has the right level of visibility to the relevant demand- and supply-side execution events.

Strategy is the key input as it has to drive the technology considerations of the CORE categories. Gartner believes that companies need an SCP technology roadmap that ensures the right blend of capabilities across these categories. This enables them to plan and execute their supply chains in alignment with their business strategy, and ensure their development and ongoing adjustment of strategy is adequately informed by execution. The required mix of CORE capabilities changes as a company proceeds on its supply chain maturity journey. Additionally, the right mix of current and future CORE capabilities needs to be planned to ensure that a specific planning process (such as S&OP) can adequately support the business roadmap for improving the maturity of that process. Therefore, it is important — particularly when thinking about future SCP and S&OP requirements — to consider this necessary rebalancing of capabilities in any technology-related roadmaps. The CORE model has more impact on the Completeness of Vision axis of this Magic Quadrant. Current levels of C, O and R capability are more applicable to Stage 4 S&OP maturity, while the future levels dictated by the vendor's roadmap will be more applicable to Stage 5. For example, in this iteration of the S&OP SOD Magic Quadrant, the most important (as rated by users) capability of S&OP technology is supply chain modeling (Configure planning) as companies mature their S&OP processes and push out their time horizons and need to factor in more strategic "what if" scenarios.

As with any other SOD in the SCP sector, an S&OP SOD cannot operate in isolation, as it will get most, if not all, of the data it requires from an SCP SOR. Additionally, decisions made in the S&OP process will need to be operationalized, and this will happen back in the SCP SOR.

Gartner defines a link between planning process maturity (using a five-stage maturity framework) and the supporting technology, defined using Gartner's pace layer model. Up to Stage 3, planning process maturity is supported by the SCP SOR. Any Stage 4 planning processes are supported, in terms of technology, by a SOD of some type. Therefore, an S&OP SOD is required to support a Stage 4 S&OP process. However, an S&OP SOD can be introduced before a company has fully developed Stage 4 S&OP (for example, while still at Stage 3) in order to help the transition from a Stage 3 process to a Stage 4 process. Additionally, an S&OP solution may be able to support Stages 1 to 4, thereby enabling a company to progress quickly through the process maturity stages without having to replace, or wait to implement, technology along the way.

To assess the relative current and future functional strengths and weaknesses of a vendor's S&OP solution, it is important to determine what business outcomes are required. An S&OP process will

need different technologies at different stages of S&OP maturity. This can be revealed by using Gartner's S&OP maturity framework.

Next, assess which type of technology is needed. This is identified by using Gartner's pace layer framework. For any Stage 4 process, the technology required is an SOD and needs to be managed as such (see "Best Practices for Developing a Pace-Layered Application Strategy for Supply Chain Planning"). Achieving Stage 4 process maturity should provide a significant competitive advantage for any company.

The third issue to understand is what mix of planning capabilities is, or will be, required to support the S&OP process. This is determined by using Gartner's CORE framework. The level of CORE capabilities should be considered for current and future business requirements, and built into the relevant technology roadmap.

Supply chain IT leaders looking to invest in S&OP technology should:

- Identify their current level of S&OP maturity (see "Toolkit: S&OP Maturity Self-Assessment for Supply Chain Leaders").

- Identify their target level of S&OP maturity in five years (aligned with their business and supply chain strategy).

- Audit their SCP technology landscape by assigning technology assets to the relevant SCP pace layer and CORE categories.

- Identify technology gaps, by pace layer and CORE category, that need to be filled in support of the target level of S&OP maturity.

- Construct an overall SCP technology roadmap (covering at least the SCP SOR and S&OP SOD) with a view to filling the gaps.

Use this Magic Quadrant and "Magic Quadrant for Supply Chain Planning System of Record " to help identify suitable technology options in support of the envisaged technology roadmap.

Market Overview

Gartner forecasts that the S&OP SOD sector will grow more strongly than the overall SCP market for the next five years as more end-user companies work to move their Stage 3 S&OP processes to Stage 4.

Since this Magic Quadrant was last published in 2015, there have been significant shifts in the relative positions of several vendors that appear in both S&OP SOD Magic Quadrants. These moves have been driven mainly by two phenomena. Firstly, there has been a significant shift in overall S&OP maturity of references over the past two years. Average maturity has increased from 3.2 to 3.8 with incidence of S&OP maturities above Stage 4 significantly increased — in some cases, up over 20%. This has resulted in changing priorities for specific S&OP SOD functional capabilities. Secondly, several vendors have evolved their S&OP SOD solutions to better match the current

market requirements. While some other vendors are finding that their specific S&OP capabilities are now a better match for market requirements, and this helps to improve their market position.

For this Magic Quadrant, we surveyed around 240 end-user companies about their use of S&OP SOD technology. The top 10 (out of 16) technology characteristics that impact their ability to achieve their S&OP goals are:

- Supply chain modeling (No. 2 in our 2015 reference survey)

- Tight integration with the SCP SOR (No. 3 in our 2015 reference survey)

- Financial impact analysis (No. 6 in our 2015 reference survey)

- Performance management and analytics

- Internal enterprise collaboration across global deployments (No. 1 in our 2015 reference survey)

- Scenario management

- Configurability, especially for different process designs

- Support for global deployments (almost 70% of the companies surveyed are deploying an S&OP SOD as a single global instance that supports all business units)

- Tight integration to strategic CPM (financial budgeting and forecasting) solutions

- Hierarchy and translation management

Historically, S&OP solutions have been separate from operational SCP SORs and have tended to be more heavily invested in a basic "optimize" planning capability. This reflected past user requirements for a more operationally oriented Stage 3 maturity S&OP process where the focus was on areas such as internal collaboration.

Today, companies are generally further along in their journey toward (or beyond) Stage 4 maturity. Therefore, users' requirements are more oriented toward enterprise-level S&OP, with strong supply chain modeling, financial impact analysis and tight integration back into the operational planning environment. These capabilities enable an active, closed-loop S&OP process with appropriate S&OE support through tight integration with the SCP SOR aligned with strong scenario modeling capabilities that help reflect strategic imperatives into the S&OP decision making. Additionally, a number of vendors' visions include new office-of-finance solutions (for integration to the financial planning environment) to support further supply chain/finance alignment.

Over time, some companies will want to move to Stage 5 S&OP maturity. This will call for a technology roadmap that strengthens long-term, configurable supply chain modeling to link further with strategy and deeper financial-impact analysis for end-to-end profitable trade-off analysis. It will also call for a move toward algorithmic SCP with appropriate automation of key elements of decision making. This will improve: alignment with corporate financial planning; multienterprise supply chain visibility to further support extended horizontal value chain integration; respond planning to better align execution and strategy; architectural changes for scale planning speed and collaboration; and pace layer integration.

The most likely scenario for the S&OP SOD market is that large vendors (such as ERP/business suite and SCP or strategic CPM-oriented vendors) will continue to invest in S&OP solutions and integrate or consolidate them with other applications in their portfolio. Niche Players will continue to specialize in differentiated solutions, particularly for Stages 4 and 5 S&OP specifics, or in specific functional areas, such as end-to-end strategic supply chain modeling.

In the long run, and similar to adoption of SCP solutions, the larger suite providers will dominate and influence the market for S&OP SOD applications. They will continue to pursue the S&OP SOD opportunity, possibly via partnerships with, or acquisitions of, niche vendors. Vendors will generally decide to serve this market by continuing to broaden the S&OP role within enterprises and offering S&OP solutions through alternative delivery models, such as SaaS via cloud-based solutions.

Existing and emerging specialist vendors will continue to build on a portfolio of products within businesses to satisfy Stages 4 and 5 S&OP use cases. They will continue to aggregate more pieces into their S&OP offerings to articulate a value proposition when integrated with other application vendors' solutions. They will look at strategic alliances, and mergers and acquisitions to offer differentiated, but more complete and integrated, planning solutions. In this scenario, no clear winner emerges, and polarization occurs between a few large vendors committed to mature S&OP and a few successful specialist S&OP vendors.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"How Markets and Vendors Are Evaluated in Gartner Magic Quadrants"

"Hype Cycle for Supply Chain Planning, 2016"

"Magic Quadrant for Supply Chain Planning System of Record"

"Toolkit: An RFP Template for Evaluating S&OP System-of-Differentiation Solutions"

"Toolkit: S&OP Maturity Self-Assessment for Supply Chain Leaders"

"Reference Model for S&OP System of Differentiation"

Evidence

Gartner used multiple data sources to help analyze and assess each vendor included in this Magic Quadrant. Data sources included:

- Detailed vendor surveys covering current operations, solution sets, strategic directions, technology vision, and market and industry focus.

- A standard S&OP SOD RFP, which included over 240 detailed questions. Each vendor's RFP response was weighted, based on Gartner's view of its importance to an S&OP SOD.

- A detailed survey of vendors' reference customers. Around 240 end-user companies completed a standard online survey that was used to help assess, for each vendor's installed base, the levels of S&OP maturity, current and future engagement, deployment mode, functional use, and overall satisfaction with the specific solutions implemented.

- Detailed information on key S&OP SOD areas gathered from vendors during briefings with Gartner analysts, which also included demonstrations of vendors' solutions.

To supplement and validate these data sources, Gartner used feedback from the hundreds of S&OP inquiries it receives each year from its clients.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary

tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

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